AMENDMENTS TO THE CLAIMS

The following listing of claims will replace all prior versions and listings of claims in the application.

LISTING OF CLAIMS

Cancel Claims 1 - 103.

104. A method for making an ultra high molecular weight polyethylene (UHMWPE) article, for subsequent processing to make an artificial joint, comprising:

(a) crosslinking a raw UHMWPE article slightly with low dose irradiation; and then

(b) heating said irradiated article to a compression deformable temperature between 50°C below the melting point of said article and said melting point;

(c) compression deforming the heated article; and then

(d) cooling the article while maintaining the deformed state.

Cancel Claims 105-108.

109. A method according to Claim 104, wherein pressure is applied during said heating step.

110. A method according to Claim 109, further comprising cooling said article and isothermally crystallizing said cooled article after said heating step.

111. A method according to Claim 110, wherein said isothermal crystallizing comprises heating said article to a temperature of from around 100°C to 130°C for a period of from 1 hour to 20 hours.

Cancel Claims 112 - 138.

139. A method of making a component for an artificial joint comprising ultra high molecular weight polyethylene (UHMWPE), comprising:

(a) crosslinking a raw UHMWPE article slightly with low dose irradiation; and then

(b) heating the irradiated article to a compression deformable temperature by heating at a temperature from its melting point minus 50°C to its melting point;

(c) applying pressure to said irradiated article at a deformation temperature;

(d) heating said irradiated article to a temperature of from around 100°C to 130°C for a period of at least 1 hour; and then

(e) cooling the article while maintaining the deformed state; and then

(f) processing said article to make said component.

Cancel Claims 140 - 148.

149. A method according to claim 104, wherein the irradiation is gamma-irradiation.

150. A method according to claim 104, wherein the raw UHMWPE article comprises UHMWPE having a weight average molecular weight of 2 - 8 million.

151. A method according to claim 104, wherein the article comprises UHMWPE having 0.1 – 10 crosslinking points per 1 molecular chain.

152. A method according to claim 104, wherein the irradiation dose is from 0.01 to 5.0 MR.

153. A method according to claim 104, wherein the compression deformable temperature is from 100°C to 130°C.

Cancel Claims 154 - 163.

164. A method according to 139, wherein the irradiation is gamma-irradiation.

165. A method according to claim 139, wherein the raw UHMWPE article comprises UHMWPE having a weight average molecular weight of 2 - 8 million.

166. A method according to claim 139, wherein the article comprises UHMWPE having 0.1 – 10 crosslinking points per 1 molecular chain.

167. A method according to claim 139, wherein the irradiation dose is from 0.01 to 5.0 MR.

168. A method according to claim 139, wherein the compression deformable temperature is from 100°C to 130°C.

Cancel Claims 169 - 174.